

Section 1.1 Homework

Understanding Points, Lines, and Planes

Key

Picture	Word	Notation	Definition
	Point	$A$	Names a <u>location</u> and has no <u>size</u> .
	Line	$\overleftrightarrow{MN}, \overleftrightarrow{NM}$	A straight path that has no <u>endpoints</u> and extends <u>forever</u> .
	Plane	Plane $MNP$	A flat <u>surface</u> that has no thickness and extends forever.
	Collinear	$K$ and $n$ are collinear	Points that lie on the same <u>line</u> .
	Coplanar	$R$ and $s$ are coplanar	Points that lie in the same <u>plane</u> .
	Line Segment	$\overline{AB}, \overline{BA}$	Part of a <u>line</u> consisting of two <u>endpoints</u> and all the points between them.
	Endpoint	$A$ is an endpoint for $\overrightarrow{AC}$ or $\overline{AB}$	A <u>point</u> at one end of a <u>segment</u> or the starting point of a <u>ray</u> .
	Ray	$\overrightarrow{LM}$ not $\overleftarrow{LM}$	Part of a <u>line</u> that <u>starts</u> at an <u>endpoint</u> and extends forever in <u>one</u> direction.
	Opposite Rays	$\overrightarrow{PR}$ and $\overrightarrow{PS}$ are opp rays	Two rays that have a common <u>endpoint</u> and form a <u>line</u> .

Draw and label a diagram for each figure.

1. point  $W$

2. line  $MN$

3.  $\overline{JK}$

4.  $\overline{EF}$

Name each figure using words and symbols.

5.



$\overleftrightarrow{CD}$  or  $\overleftrightarrow{DC}$   
line CD or line DC

6.



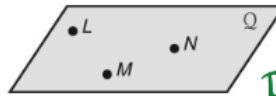
$\overline{WX}$  or  $\overline{XW}$   
segment WX or XW

7.



$\overrightarrow{ST}$  ray ST

8. Name the plane in two different ways.



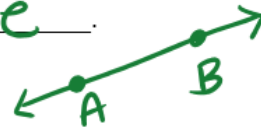
Plane Q or  
Plane LMN

What is a Postulate?

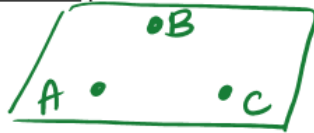
A postulate is a statement that is accepted as true without proof.

**Postulates for Section 1.1:** Fill in the blanks and draw a picture to represent each postulate.

1.1 Through any two points there is exactly one line.



1.2 Through any three noncollinear points there is exactly one plane containing them.



1.3 If two points lie in a plane, then the line containing these points lies in the plane.



1.4 If two lines intersect, then they intersect at exactly one point.



1.5 If two planes intersect, then they intersect at exactly one line.

